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8
9 **UNITED STATES DISTRICT COURT**
10 **NORTHERN DISTRICT OF CALIFORNIA**
11 **SAN JOSE DIVISION**
12

13 IN RE HIGH-TECH EMPLOYEE
14 ANTITRUST LITIGATION

15 THIS DOCUMENT RELATES TO:
16 ALL ACTIONS

Master Docket No. 11-CV-2509-LHK

**DECLARATION OF LAUREN J. STIROH,
PH.D. IN SUPPORT OF DEFENDANTS'
JOINT MOTION TO EXCLUDE THE
EXPERT TESTIMONY OF EDWARD E.
LEAMER, PH.D.**

Date: March 20, 2014 and
March 27, 2014
Time: 1:30 p.m.
Courtroom: 8, 4th Floor
Judge: The Honorable Lucy H. Koh

1 I, Lauren J. Stiroh, Ph.D., declare as follows:

2 1. I am an economist and Senior Vice President of NERA Economic Consulting.
 3 Defendants have retained me as an expert witness in this matter. I have reviewed the expert
 4 reports submitted by Plaintiffs' expert, Dr. Edward E. Leamer, the documents and data referenced
 5 therein, Dr. Leamer's deposition testimony, other expert and factual materials submitted in this
 6 case, and publicly available information. On November 25, 2013, I submitted an expert report
 7 addressing the issues of impact and damages and responding to Dr. Leamer's analyses and
 8 opinions ("Stiroh Report"). I submit this declaration in support of Defendants' Joint Motion to
 9 Exclude the Expert Testimony of Edward E. Leamer, Ph.D. I offer this declaration based on my
 10 own personal knowledge and expertise and information provided to me. If called as a witness, I
 11 could and would testify competently thereto.

12 2. I received my Ph.D. in economics from Harvard University in 1996, my M.A.
 13 from the University of British Columbia in 1991, and my B.A. in economics from the University
 14 of Western Ontario in 1990. I have provided economic consulting services and testimony in a
 15 number of antitrust liability and damages cases and have testified at trial and in deposition
 16 regarding a variety of business practices. These include, for example, commercial disputes,
 17 business interference, breach of contract, allegations of monopolization, price predation, unlawful
 18 tie-ins, price discrimination, abuse of market power, and patent infringement. I have experience
 19 with damages issues in a range of industries including industrial chemicals, automotive services,
 20 consumer products, pharmaceuticals, biotechnology, medical devices, agricultural products,
 21 advertising and promotion, and semiconductors.

22 **Statistical Significance of Dr. Leamer's Regression Results**

23 3. Dr. Leamer purports to analyze the alleged damages to Class members due to the
 24 alleged conspiracy using a regression model, which attempts to determine the amount by which
 25 total compensation was reduced during the years in which do-not-cold-call ("DNCC") agreements
 26 were in effect. [Stiroh Report, ¶ 146] To determine whether the results of a regression provide
 27 reliable evidence for a specific hypothesis, economists typically refer to standard errors and
 28 statistical significance. The standard error on a variable's coefficient estimate is used to

1 determine the statistical significance of the coefficient estimate, that is, whether the model
2 provides sufficient evidence that the true value of a coefficient is different from zero. [Stiroh
3 Report, ¶ 167] If a coefficient estimate is not statistically significant at the selected level of
4 significance, then the model has not found sufficient evidence to reject the “null hypothesis” that
5 the true impact of the relevant variable is zero. [Stiroh Report, ¶ 167] The term “null hypothesis”
6 refers to the default hypothesis that the model should be designed to reject. [Stiroh Report, ¶ 167,
7 Footnote 270] Rejecting the null hypothesis means that the model provides support for a
8 measurable impact of (in this case) the DNCC agreements on compensation. When impact must
9 be proven rather than assumed, it is appropriate to set the null hypothesis to zero (i.e., the default
10 supposition is that the agreements had no impact and it is the task of the econometrician to
11 establish otherwise). Here, the appropriate null hypothesis is the alleged DNCC agreements had
12 no impact on compensation, or zero damages.

13 4. When the standard errors are correctly estimated in Dr. Leamer’s model, the
14 coefficients on two of his four Class period variables (or what he calls the “conduct” variables)—
15 the un-interacted “conduct” variable, and the “conduct” variable interacted with the hiring rate
16 per Defendant firm— are not statistically significant at the 1%, 5%, or 10% significance levels.
17 [Stiroh Report, ¶¶ 166, 168] This means that Dr. Leamer’s model has not been able to estimate
18 these coefficients precisely enough to conclude that their true values are not, in fact, zero. [Stiroh
19 Report, ¶ 168]

20 5. In each of his reports, Dr. Leamer has indicated whether the coefficients in each of
21 his regression analyses are statistically significant at the 1%, 5%, or 10% levels (see, for example,
22 Exhibits 2 – 6 of his October 2013 Merits Report). These are the same significance thresholds I
23 adopted for my report, and they are consistent with standard economic practice. If an estimate is
24 statistically significant at a 5% level, for example, this indicates that there is no more than a 5%
25 probability of observing at least the same result by chance when the null hypothesis is in fact true.
26 A 5% significance level provides a standardly accepted threshold of willingness to mistakenly
27 interpret non-meaningful results as meaningful.

28 6. In his December 2013 Reply Report, Dr. Leamer opines for the first time that a

1 result that is statistically significant at a 50% threshold is sufficiently accurate to establish impact
 2 and damages. [Leamer December 2013 Reply Report, ¶ 86] For a result to be statistically
 3 significant at a 50% threshold means that there is no more than a 50% chance of observing results
 4 at least as large simply by chance. This is the same likelihood as one who makes the same
 5 determination by flipping a coin. Dr. Leamer's new 50% significance threshold is contrary to
 6 standard practice for published and peer-reviewed economic literature.

7 7. Dr. Leamer also suggests that the appropriate hypothesis is not zero damages, and
 8 instead proposed in deposition that a null hypothesis of 10% suppression of compensation was
 9 appropriate. If one sets the null hypothesis to be equal to the model outcome, the model will
 10 never reject the null hypothesis. But by setting the null hypothesis equal to the model outcome,
 11 impact has been assumed rather than established.

12 **Dr. Leamer's "Total New Hires" Variable**

13 8. Dr. Leamer's regression model includes the total number of new hires per year by
 14 all seven Defendants as an explanatory variable. This "total new hires" variable is the sum of the
 15 new hires by each Defendant firm in a given year and is, therefore, the same for every employee
 16 in the data set in a given year and is restricted to have the same effect on compensation at every
 17 firm, regardless of the number and relative importance of each firm's DNCC agreements to their
 18 compensation structures. [Stiroh Report, ¶ 183]

19 9. As I described in more detail in my November 2013 report, Dr. Leamer aggregates
 20 new hires across all Defendants despite the fact that his theory of harm suggests that the different
 21 components of this variable should have different effects on employee compensation. To see this,
 22 the new hires variable can be broken down into four distinct categories: (1) new hires at the
 23 employee's own firm; (2) new hires at another firm with which the employee's firm did not have
 24 a DNCC agreement; (3) new hires at another firm with which the employee's firm had a DNCC
 25 agreement while that agreement was in effect; and (4) new hires at another firm with which the
 26 employee's firm had a DNCC agreement while that agreement was not in effect. [Stiroh Report,
 27 ¶ 184]

28 10. As a correction to the misspecification embodied by Dr. Leamer's total new hires

1 variable, I have estimated his regression model by splitting the variable into its component parts.
2 The new hires in category (1) were already taken into account in Dr. Leamer's model, so I have
3 replaced the total new hires variable with 3 new variables allowing me to estimate the differential
4 impact from categories (2), (3), and (4). Splitting apart the new hires variable in this fashion
5 allows the model to reflect variation across firms since each firm has its own unique set of firms
6 with which it has a DNCC agreement(s) in each year in the alleged Class period. [Stiroh Report,
7 ¶ 187] The alleged damages estimated by this specification of Dr. Leamer's model are
8 approximately \$543 million. [Stiroh Report, ¶ 188] I provided these results in Exhibits VI.7 and
9 VI.8 to my November 2013 report, which are attached hereto. I have also estimated a version of
10 this model in which the new hires from groups (2), (3), and (4) are scaled by the number of
11 employees currently at the firm, and so represent the number of new hires from the various
12 groups as a share of the firm's extant workforce. This mirrors the fashion in which Dr. Leamer
13 included the new hires from group (1) in his original regression. The results of this model show
14 *net overcompensation* by the Defendants during the Class period. [Stiroh Report, ¶ 189] I
15 provided these results in Exhibits VI.11 and VI.12 to my November 2013 report, which are also
16 attached as exhibits hereto.

17 11. In addition, Dr. Leamer's model estimates a negative coefficient on the total new
18 hires variable. This implies that, all else equal, as Defendants are doing more hiring (demand
19 increases), they pay their employees less (price decreases). This runs contrary to basic economic
20 principles. [Stiroh Report, ¶ 163]

21 12. Dr. Leamer attempts to justify including the total new hires variable and its
22 negative coefficient in his December 2013 reply report, stating that the variable is identifying
23 periods of weak labor markets and not strong ones. [Leamer December 2013 Reply Report, ¶
24 119] However, this explanation does not hold up. The spike in new hiring he identifies in 2005
25 followed by a decrease in hiring in 2006 and 2007 is driven by a single Defendant, Intel, and not
26 the other Defendants. In Exhibit 114 used at Dr. Leamer's deposition, I disaggregated the
27 Defendants' hiring to show the pattern seen in the total new hires variable mirrors Intel's pattern
28 of hiring more closely than it does that of any other Defendant. This chart is also attached as an

1 exhibit hereto. While Intel experienced a spike in hiring in 2005, followed by a reduction in force
 2 that started in 2006, this does not indicate a larger pattern across all Defendants of decreased
 3 hiring. Google, for example, increased its hiring in 2006 and 2007.

4 **Dr. Leamer's Conduct Variable**

5 13. Dr. Leamer's model imposes the condition that the alleged Class period, or
 6 "conduct," coefficients are the same for all Defendants. This restriction of his model makes his
 7 results overly sensitive to the actions of individual Defendants. Adjustments that theoretically
 8 would only impact one Defendant in fact affect them all. As discussed in my November 2013
 9 report, I understand that Intel may not have entered into a DNCC agreement with Google until
 10 2006, even though Dr. Leamer's model "turns on" the conduct variable for Intel for half of 2005
 11 (by setting the conduct variable to 0.5 for 2005). I have re-estimated his model with the only
 12 alteration being that the conduct variable is turned on for Intel in 2006 (that is, the conduct
 13 variable is set to 0 for 2005 instead of 0.5). This change reduces the total alleged damages by \$1
 14 billion as compared to Dr. Leamer's estimates. And not only have the alleged damages estimated
 15 by the model been reduced for Intel, but all seven Defendants have lower alleged damages than
 16 Dr. Leamer posits. I attached these results to my November 2013 report as exhibits VI.3 and
 17 VI.4, and they are also attached hereto. [Stiroh Report, ¶¶ 179 – 180]

18 **The Inability of Dr. Leamer's Model to Account for Unchallenged Events**

19 14. The Class period, or "conduct," variable that Dr. Leamer uses to measure damages
 20 is not tied to a reduction in cold calling, but rather to the time period in which the DNCC
 21 agreements at issue allegedly existed. The conduct variable is thus incapable of isolating any
 22 impact of the DNCC agreements on compensation from other concurrent events not explicitly
 23 controlled for in the model. In other words, Dr. Leamer's model does not allow one to evaluate
 24 whether the alleged undercompensation measured during the Class period is caused by a
 25 reduction in cold-calling from DNCC agreement(s) or from other factors not included in the
 26 model. [Stiroh Report, ¶¶ 155, 195] Any economic events that occurred inside the Class period
 27 and not outside the Class period are being picked up by Dr. Leamer's conduct variables as well.

28 15. One example of this is the 2008 – 2009 recession, which would have negatively

1 affected compensation for substantial portions of the Class during these years. [Stiroh Report, ¶
2 196] In a preliminary analysis in Dr. Leamer's initial, October 2012 report, he addressed the
3 recession by giving 2008 and 2009 zero values for the "estimated underpayment" each year,
4 based on the idea that the weak economy would not have resulted in compensation increases in
5 those years. [Leamer October 2012 Report, ¶ 140] I have applied this same technique to Dr.
6 Leamer's regression model, zeroing out the contribution of the years 2008 and 2009 on the
7 cumulative alleged damages. Doing so reduces Dr. Leamer's alleged damages estimate by more
8 than half, to about \$1.2 billion, which indicates that the recession years contribute to more than
9 half of his total alleged damages estimate. [Stiroh Report, ¶ 201] Dr. Leamer's model is also
10 unable to account for other economic events, such as how each Defendant responded to the
11 recession when setting compensation. [Stiroh Report, ¶¶ 196, 201]

12 16. Dr. Leamer treats all of the DNCC agreements in the same fashion regardless of
13 the importance of each firm with which a Defendant had a DNCC agreement to the flow of
14 information to that Defendant's employees. Even if Dr. Leamer had established that DNCC
15 agreements meaningfully affected information flow to the Class and did so in a uniform manner
16 (which he has not), his regression model cannot distinguish between the DNCC agreements at
17 issue and those that are not part of this case. Specifically, his model lacks any controls or means
18 of identifying the DNCC agreements that are not part of this case and therefore cannot parse their
19 effects from his overly inclusive "conduct" variable that simply points to years, and not
20 specifically to any DNCC agreements. In his October 2012 report, Dr. Leamer points out that
21 Defendants potentially entered into several other DNCC agreements during the Class period.
22 [Leamer October 2012 Report, ¶ 22] Because these agreements were allegedly entered into
23 during the Class period, the impact, if any, of these unchallenged agreements is conflated with the
24 impact, if any, of the agreements challenged as unlawful in this action. [Stiroh Report, ¶ 210]

1 I declare under penalty of perjury under the laws of the United States that the above is true and
2 correct.

3 Executed on January 9, 2014, in White Plains, New York.

4
5 By: 

6 Lauren J. Stiroh, Ph.D.
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**Dr. Leamer's Compensation Regression
Assuming Intel's Conduct Began in 2006**

Variable (a)	Coefficient Estimate (b)	P-Value (c)
Conduct * (Log Age - Log(38))	1.28431 ***	0.00559
Conduct * (Log(Age)^2 - Log(38)^2)	-0.17425 ***	0.00453
Conduct * (Log(Number of New Hires In the Firm/Number of Employees(-1)) + 1.92)	-0.00962	0.74355
Conduct	-0.03266	0.44611
ADOBE * Log(Total Annual Compensation/CPI) (-1)	0.66810 ***	0.00000
APPLE * Log(Total Annual Compensation/CPI) (-1)	0.72617 ***	0.00000
GOOGLE * Log(Total Annual Compensation/CPI) (-1)	0.43592 ***	0.00000
INTEL * Log(Total Annual Compensation/CPI) (-1)	0.67316 ***	0.00000
INTUIT * Log(Total Annual Compensation/CPI) (-1)	0.64622 ***	0.00000
LUCASFILM * Log(Total Annual Compensation/CPI) (-1)	0.92762 ***	0.00000
PIXAR * Log(Total Annual Compensation/CPI) (-1)	0.67091 ***	0.00002
ADOBE * Log(Total Annual Compensation/CPI) (-2)	0.31164 ***	0.00000
APPLE * Log(Total Annual Compensation/CPI) (-2)	0.24901 ***	0.00000
GOOGLE * Log(Total Annual Compensation/CPI) (-2)	0.36574 ***	0.00000
INTEL * Log(Total Annual Compensation/CPI) (-2)	0.29289 ***	0.00000
INTUIT * Log(Total Annual Compensation/CPI) (-2)	0.30886 ***	0.00000
LUCASFILM * Log(Total Annual Compensation/CPI) (-2)	0.04684	0.57935
PIXAR * Log(Total Annual Compensation/CPI) (-2)	0.09436	0.42308
Log(Age) (Years)	-0.66259 ***	0.00042
Log(Age)^2	0.08010 ***	0.00075
Log(Company Tenure) (Months)	0.01924	0.66581
Log(Company Tenure)^2	-0.00137	0.76649
Male	0.00553 **	0.02930
DLog(Information Sector Employment in San-Jose)	1.89412 ***	0.00132
Log(Total Number of Transfers Among Defendants)	0.08596 **	0.02140
Year (trend)	0.00092	0.89724
Log(Number of New Hires In the Firm/Number of Employees(-1))	0.01816	0.46395
Log(Total Number of New Hires)	-0.31878 ***	0.00029
Log(Firm Revenue Per Employee/CPI) (-1)	-0.05930	0.41583
DLog(Firm Revenue Per Employee/CPI) (-1)	0.13494 *	0.08747
APPLE	0.13180	0.61613
GOOGLE	1.37139 ***	0.00257
INTEL	0.09495	0.72815
INTUIT	0.14360	0.51651
LUCASFILM	0.07172	0.80633
PIXAR	1.38869 ***	0.00066
Constant	1.92871	0.89496
State Fixed Effects	Yes	
R ²	0.8681	
Number of Observations	277,119	

Notes:

***=significant at 1% level; **=significant at 5% level; *=significant at 10% level.

Standard errors clustered by employer and year.

Regression run assuming Intel's conduct began in 2006.

Source:

Dr. Leamer's regression data.

**Effect on Alleged Damages by Defendant and Year Implied by Dr. Leamer's Compensation Regression
Of Assuming Intel's Conduct Began in 2006
2005 to 2009**

Year	Adobe	Apple	Google	Intel	Intuit	Lucasfilm	Pixar	Total
	----- (Dollars) -----							
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
2005	\$ 2,991,382	\$ 7,859,709	\$ 20,362,805	\$ -	\$ -	\$ 1,180,665	\$ 7,612,324	\$ 40,006,886
2006	15,302,878	33,895,909	52,673,137	111,286,643	-	2,959,072	11,393,004	227,510,643
2007	26,256,519	72,727,650	133,404,943	147,064,867	4,833,990	4,732,842	11,628,978	400,649,788
2008	37,005,525	101,203,672	122,101,527	245,286,269	18,369,109	5,873,161	12,730,374	542,569,638
2009	30,540,282	108,226,469	170,217,189	229,465,546	14,360,237	5,273,810	8,766,728	566,850,261
Total	\$ 112,096,586	\$ 323,913,409	\$ 498,759,601	\$ 733,103,325	\$ 37,563,336	\$ 20,019,550	\$ 52,131,408	\$ 1,777,587,214

Note:

Regression run assuming Intel's conduct began in 2006.

Source:

Dr. Leamer's regression data.

**Dr. Leamer's Compensation Regression
Splitting Total New Hire Variable**

Variable	Coefficient Estimate	P-Value
(a)	(b)	(c)
Conduct * (Log Age - Log(38))	0.84677 **	0.03502
Conduct * (Log(Age)^2 - Log(38)^2)	-0.11620 **	0.02753
Conduct * (Log(Number of New Hires In the Firm/Number of Employees(-1)) + 1.92)	0.01284	0.71354
Conduct	0.53292 *	0.06690
Conduct * Log(Total Number of DNCC New Hires)	-0.07329 *	0.08329
ADOBE * Log(Total Annual Compensation/CPI) (-1)	0.61627 ***	0.00000
APPLE * Log(Total Annual Compensation/CPI) (-1)	0.73074 ***	0.00000
GOOGLE * Log(Total Annual Compensation/CPI) (-1)	0.43256 ***	0.00000
INTEL * Log(Total Annual Compensation/CPI) (-1)	0.66429 ***	0.00000
INTUIT * Log(Total Annual Compensation/CPI) (-1)	0.62670 ***	0.00000
LUCASFILM * Log(Total Annual Compensation/CPI) (-1)	0.87777 ***	0.00000
PIXAR * Log(Total Annual Compensation/CPI) (-1)	0.67622 ***	0.00002
ADOBE * Log(Total Annual Compensation/CPI) (-2)	0.36380 ***	0.00000
APPLE * Log(Total Annual Compensation/CPI) (-2)	0.24269 ***	0.00000
GOOGLE * Log(Total Annual Compensation/CPI) (-2)	0.35948 ***	0.00000
INTEL * Log(Total Annual Compensation/CPI) (-2)	0.30115 ***	0.00000
INTUIT * Log(Total Annual Compensation/CPI) (-2)	0.32185 ***	0.00000
LUCASFILM * Log(Total Annual Compensation/CPI) (-2)	0.10830	0.47356
PIXAR * Log(Total Annual Compensation/CPI) (-2)	0.08953	0.44939
Log(Age) (Years)	-0.53123 ***	0.00554
Log(Age)^2	0.06284 ***	0.00956
Log(Company Tenure) (Months)	-0.02564	0.56157
Log(Company Tenure)^2	0.00350	0.44593
Male	0.00562 **	0.03394
DLog(Information Sector Employment in San-Jose)	1.39775 **	0.02657
Log(Total Number of Transfers Among Defendants)	0.07544 *	0.06836
Year (trend)	0.00415	0.65601
Log(Number of New Hires In the Firm/Number of Employees(-1))	-0.06738	0.14399
Log(Total Number of DNCC New Hires)	-0.05136	0.17061
Log(Total Number of non-DNCC New Hires)	-0.13253 *	0.05332
Log(Firm Revenue Per Employee/CPI) (-1)	-0.16205 *	0.06893
DLog(Firm Revenue Per Employee/CPI) (-1)	0.19195 **	0.04282
APPLE	0.25167	0.35865
GOOGLE	1.38572 **	0.01187
INTEL	-0.01282	0.96505
INTUIT	0.20418	0.35923
LUCASFILM	-0.05949	0.85206
PIXAR	1.34573 ***	0.00047
Constant	-6.05281	0.74656
State Fixed Effects	Yes	
R ²	0.8678	
Number of Observations	277,119	

Notes:

***=significant at 1% level; **=significant at 5% level; *=significant at 10% level.

Standard errors clustered by employer and year.

This regression divides Dr. Leamer's total new hires variable into Log(Total Number of DNCC New Hires), Log(Total Number of non-DNCC New Hires), and Conduct * Log(Total Number of DNCC New Hires).

Source:

Dr. Leamer's regression data.

**Effect on Alleged Damages by Defendant and Year Implied by Dr. Leamer's Compensation Regression
Of Splitting Total New Hire Variable
2005 to 2009**

Year	Adobe	Apple	Google	Intel	Intuit	Lucasfilm	Pixar	Total
(Dollars)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
2005	\$ (4,095,282)	\$ (3,815)	\$ 20,170,630	\$ (7,948,364)	\$ -	\$ (7,143,360)	\$ (15,004,968)	\$ (14,025,160)
2006	(23,126,211)	12,538,021	26,054,312	66,690,173	-	(14,482,164)	(19,377,056)	48,297,076
2007	(32,681,040)	29,595,972	49,919,309	168,674,038	680,569	(24,155,612)	(16,460,556)	175,572,680
2008	(40,265,473)	29,475,155	78,634,709	165,949,262	(1,787,738)	(29,409,923)	(14,983,178)	187,612,814
2009	(33,376,351)	14,947,037	84,721,967	121,916,230	(5,652,753)	(27,390,557)	(9,924,653)	145,240,919
Total	\$ (133,544,358)	\$ 86,552,372	\$ 259,500,926	\$ 515,281,339	\$ (6,759,923)	\$ (102,581,616)	\$ (75,750,411)	\$ 542,698,330

Notes:

This regression divides Dr. Leamer's total new hires variable into Log(Total Number of DNCC New Hires), Log(Total Number of non-DNCC New Hires), and Conduct * Log(Total Number of DNCC New Hires).

Figures in parentheses indicate overcompensation and therefore no damages.

Source:

Dr. Leamer's regression data.

Dr. Leamer's Compensation Regression
Splitting Total New Hire Variable into Shares

Variable	Coefficient Estimate	P-Value
(a)	(b)	(c)
Conduct * (Log Age - Log(38))	0.93803 **	0.03664
Conduct * (Log(Age)^2 - Log(38)^2)	-0.12764 **	0.02994
Conduct * (Log(Number of New Hires In the Firm/Number of Employees(-1)) + 1.92)	-0.03604	0.58670
Conduct	0.04447	0.38271
Conduct * Log(Total Number of DNCC New Hires/Number of Employees)	0.02002	0.55633
ADOBE * Log(Total Annual Compensation/CPI) (-1)	0.66738 ***	0.00000
APPLE * Log(Total Annual Compensation/CPI) (-1)	0.71960 ***	0.00000
GOOGLE * Log(Total Annual Compensation/CPI) (-1)	0.41920 ***	0.00000
INTEL * Log(Total Annual Compensation/CPI) (-1)	0.67272 ***	0.00000
INTUIT * Log(Total Annual Compensation/CPI) (-1)	0.67479 ***	0.00000
LUCASFILM * Log(Total Annual Compensation/CPI) (-1)	0.99354 ***	0.00000
PIXAR * Log(Total Annual Compensation/CPI) (-1)	0.69027 ***	0.00001
ADOBE * Log(Total Annual Compensation/CPI) (-2)	0.31230 ***	0.00000
APPLE * Log(Total Annual Compensation/CPI) (-2)	0.24760 ***	0.00000
GOOGLE * Log(Total Annual Compensation/CPI) (-2)	0.37172 ***	0.00000
INTEL * Log(Total Annual Compensation/CPI) (-2)	0.29128 ***	0.00000
INTUIT * Log(Total Annual Compensation/CPI) (-2)	0.27586 ***	0.00000
LUCASFILM * Log(Total Annual Compensation/CPI) (-2)	-0.04245	0.68871
PIXAR * Log(Total Annual Compensation/CPI) (-2)	0.08382	0.44591
Log(Age) (Years)	-0.53231 **	0.01506
Log(Age)^2	0.06277 **	0.02421
Log(Company Tenure) (Months)	-0.00083	0.98586
Log(Company Tenure)^2	0.00091	0.85229
Male	0.00567 **	0.03444
DLog(Information Sector Employment in San-Jose)	0.31918	0.63629
Log(Total Number of Transfers Among Defendants)	0.02334	0.53577
Year (trend)	0.01084	0.19800
Log(Number of New Hires In the Firm/Number of Employees(-1))	-0.00281	0.95753
Log(Total Number of DNCC New Hires/Number of Employees)	-0.03401	0.50338
Log(Total Number of non-DNCC New Hires/Number of Employees)	-0.01403	0.78530
Log(Firm Revenue Per Employee/CPI) (-1)	-0.06876	0.43570
DLog(Firm Revenue Per Employee/CPI) (-1)	0.10380	0.23029
APPLE	0.19025	0.48699
GOOGLE	1.43379 ***	0.00655
INTEL	-0.01742	0.95623
INTUIT	0.20088	0.36160
LUCASFILM	0.25148	0.47895
PIXAR	1.37718 ***	0.00046
Constant	-20.62578	0.21880
State Fixed Effects	Yes	
R ²	0.8645	
Number of Observations	277,119	

Notes:

***=significant at 1% level; **=significant at 5% level; *=significant at 10% level.

Standard errors clustered by employer and year.

This regression divides Dr. Leamer's total new hires variable into Log(Total Number of DNCC New Hires/Number of Employees), Log(Total Number of non-DNCC New Hires/Number of Employees), and Conduct * Log(Total Number of DNCC New Hires/Number of Employees).

Source:

Dr. Leamer's regression data.

**Effect on Alleged Damages by Defendant and Year Implied by Dr. Leamer's Compensation Regression
Of Splitting Total New Hire Variable into Shares
2005 to 2009**

Year	Adobe	Apple	Google	Intel	Intuit	Lucasfilm	Pixar	Total
(Dollars)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
2005	\$ (2,615,711)	\$ (1,541,440)	\$ 7,999,145	\$ 26,980,657	\$ -	\$ (852,906)	\$ (9,510,185)	\$ 20,459,561
2006	(8,292,951)	(15,927,881)	22,438,729	(49,927,387)	-	366,235	(12,663,419)	(64,006,675)
2007	(19,203,395)	(26,419,534)	52,489,907	(200,883,985)	(1,975,376)	1,666,889	(16,858,224)	(211,183,717)
2008	(31,613,813)	(25,507,969)	20,368,971	(235,697,070)	(13,523,824)	720,340	(15,560,318)	(300,813,684)
2009	(30,363,876)	(23,946,936)	23,028,471	(264,847,389)	(12,480,942)	109,740	(11,204,102)	(319,705,032)
Total	\$ (92,089,745)	\$ (93,343,759)	\$ 126,325,222	\$ (724,375,173)	\$ (27,980,142)	\$ 2,010,298	\$ (65,796,247)	\$ (875,249,546)

Notes:

This regression divides Dr. Leamer's total new hires variable into $\text{Log}(\text{Total Number of DNCC New Hires/Number of Employees})$, $\text{Log}(\text{Total Number of non-DNCC New Hires/Number of Employees})$, and $\text{Conduct} * \text{Log}(\text{Total Number of DNCC New Hires/Number of Employees})$.

Figures in parentheses indicate overcompensation and therefore no damages.

Source:

Dr. Leamer's regression data.

EXHIBIT 114

FILED UNDER SEAL WITH
DEFENDANTS' JOINT
ADMINISTRATIVE MOTION TO SEAL